

Application No. 09/761,144
Filed: January 16, 2001
TC Art Unit: 2661
Confirmation No.: 3416

REMARKS

The instant Amendment is filed in response to the official action dated April 14, 2004. Reconsideration is respectfully requested.

The status of the claims is as follows.

Claims 1-13 are pending in the application.

Claims 1-5 and 12-13 are allowed.

Claims 6-11 stand rejected.

Claims 6, 9, and 11 have been amended to more distinctly claim the Applicants' invention.

The Examiner has rejected claims 6-11 under 35 U.S.C. 103(a) as being unpatentable over Cao et al. (2002/0181485). Specifically, the official action indicates that the Cao reference teaches the subject matter of base claims 6 and 9, except for the steps of determining whether a removed node comprises an ingress or egress node of a first communications path, and, in the event the removed node comprises the ingress node or the egress node of the first path, tearing down a data transmission channel along the first path between the ingress and egress nodes, and, in the event the removed node does not comprise the ingress node or the egress node of the first path, maintaining the data transmission channel along the first path between the ingress and egress nodes. The

Application No. 09/761,144
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Confirmation No.: 3416

official action further indicates that base claims 6 and 9 are nevertheless rendered obvious by the Cao reference because Cao et al. teach that ingress and egress nodes are responsible for establishing and maintaining the communications paths between the nodes. The Applicants respectfully submit, however, that the official action fails to establish a *prima facie* case of obviousness, and therefore the rejections of base claims 6 and 9 under section 103 of the Patent Laws are unwarranted.

Specifically, the subject matter of base claim 6 addresses the problem of dangling resources on a communications network. Such dangling resources can be particularly problematic for networks that employ out-of-band control techniques (see, e.g., page 3, line 28, to page 4, line 1, page 4, lines 9-14, and page 21, lines 8-10, of the application). Moreover, the subject matter of base claim 9 addresses the problem of adapting to network topology changes without requiring manual intervention. Again, such dynamic adaptation to network topology changes can be problematic for networks that employ out-of-band control techniques (see, e.g., page 21, lines 13-16, of the application).

In contrast, the Cao reference merely addresses the problem of providing rapid restoration of a network to permit use of the network for reliable, readily-restored transmission of voice,

-10-

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Application No. 09/761,144
Filed: January 16, 2001
TC Art Unit: 2661
Confirmation No.: 3416

video, fax, or virtual private network signals (see paragraph 0004 of Cao et al.). The Applicants respectfully submit, however, that the problem addressed by Cao et al. is significantly different from the problems addressed by the subject matter of base claims 6 and 9.

For example, in the method disclosed by Cao et al., a plurality of communications paths is established between source and sink routers. Next, the sink router selects one of these established paths as a primary path and communicates along that path. Upon a failure in the primary path, a secondary path is then instantaneously selected from the plurality of established paths as the new primary path. Since the new route has already been established, there is no need to compute the path at this time-sensitive juncture (see paragraph 0005 of Cao et al.). However, the Cao reference is silent as to what becomes of the node resources on the original failed primary path.

The Applicants have recognized that when such a failure occurs on a primary path, dangling node resources may remain on the network. To avoid such a problem and to provide more efficient use of network resources, the Applicants have disclosed a method of tearing-down a data transmission channel along a first communications path between an ingress node and an egress node in

-11-

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Application No. 09/761,144
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TC Art Unit: 2661
Confirmation No.: 3416

the event a removed (e.g., failed) node comprises the ingress or egress node of the first path, as recited in amended claim 6. In this way, dangling resources on the network are avoided.

In contrast, dangling resources remain on the network of Cao et al. because the original failed primary path is not torn down after the path failure. As indicated above, Cao et al. are not concerned with the problem of dangling resources remaining on the network. Instead, Cao et al. are merely concerned with providing rapid restoration of the network, whether or not dangling resources remain on the network after its restoration.

As also indicated above, Cao et al. discloses that the secondary path is selected as the new primary path from the plurality of paths that have already been established. This disclosure of Cao et al. therefore teaches away from the subject matter of amended claim 9. For example, the method of Cao et al. requires the plurality of communications paths including the primary and secondary paths to be established before any changes in the network topology are detected, e.g., before detecting the failure of the original primary path.

In contrast, the method of amended claim 9 recites detecting a network topology change such as the addition of a node to a first path or the removal of a node from the first path, and, in

Application No. 09/761,144
Filed: January 16, 2001
TC Art Unit: 2661
Confirmation No.: 3416

the event a first node detecting the change is an ingress node of the first path, programming at least one of the nodes within the network to establish a data transmission channel from the ingress node to the egress node by the first node, wherein the data transmission channel is established subsequent to the detection of the network topology change. According to amended claim 9, the data transmission channel is established after the detection of the network topology change. In fact, the data transmission channel is established to incorporate the detected topology changes in the communications network, i.e., the channel is established after the topology changes are detected. Cao et al. therefore teach away from the subject matter of amended claim 9 by disclosing that the secondary path chosen as the new primary path is selected from a plurality of paths that are established before the detection of the primary path failure. Clearly, Cao et al. are only concerned with rapid restoration of a network after a failure, which is achieved by establishing multiple primary/secondary paths before any network failure is detected. In contrast, the subject matter of amended claim 9 addresses the problem of adapting to network topology changes without requiring manual intervention. To this end, the subject matter of amended claim 9 allows for the establishment of a data transmission

-13-

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Application No. 09/761,144
Filed: January 16, 2001
TC Art Unit: 2661
Confirmation No.: 3416

channel to account for network topology changes after the changes have been detected.

Because the Cao reference and the subject matter of base claims 6 and 9 address significantly different problems, there would be no motivation to one of ordinary skill in the art at the time of the invention to modify the Cao reference to obtain the claimed invention. Because there is no motivation to make this modification to the cited reference, a *prima facie* case of obviousness has not been established, and therefore the rejections of base claims 6 and 9 and the claims dependent therefrom are unwarranted and should be withdrawn.

Even if a *prima facie* case of obviousness were properly established, the Cao reference still would not render amended base claims 6 and 9 obvious. This is because Cao et al. neither teach nor suggest (1) tearing-down a data transmission channel along a first path between an ingress node and an egress node in the event a node comprising the ingress or egress node of the first path is removed (e.g., failed), as recited in amended claim 6, and (2) programming at least one node within a network to establish a data transmission channel from an ingress node to an egress node by a first node comprising the ingress node, wherein the data transmission channel is established subsequent to the detection of

-14-

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Application No. 09/761,144
Filed: January 16, 2001
TC Art Unit: 2661
Confirmation No.: 3416


the network topology change, as recited in amended claim 9. The Applicants therefore respectfully submit that the rejections of amended base claims 6 and 9 and the claims dependent therefrom should be withdrawn.

In view of the foregoing, it is respectfully submitted that the present application is in a condition for allowance. Early and favorable action is respectfully requested.

The Examiner is encouraged to telephone the undersigned Attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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-15-

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